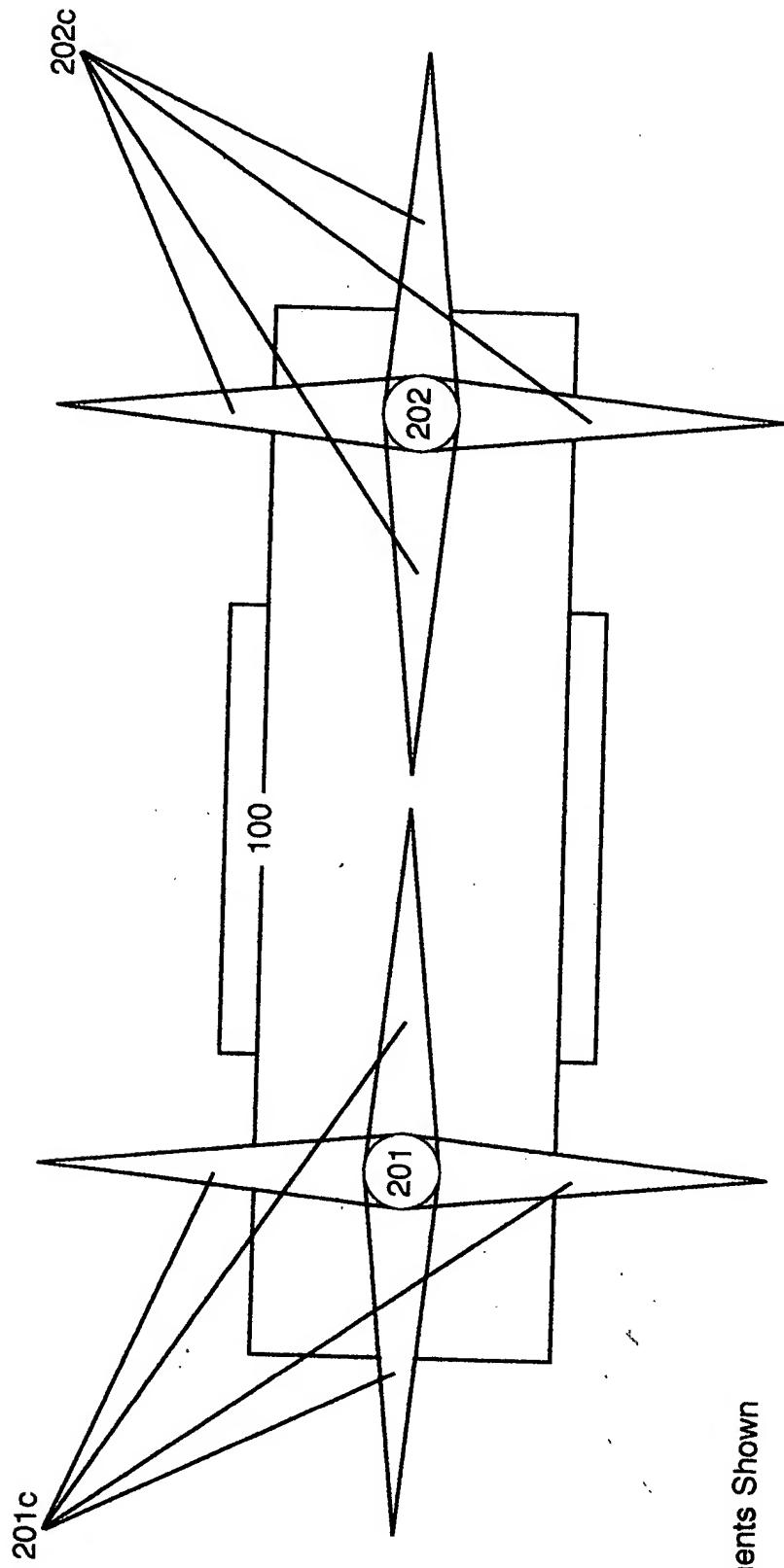


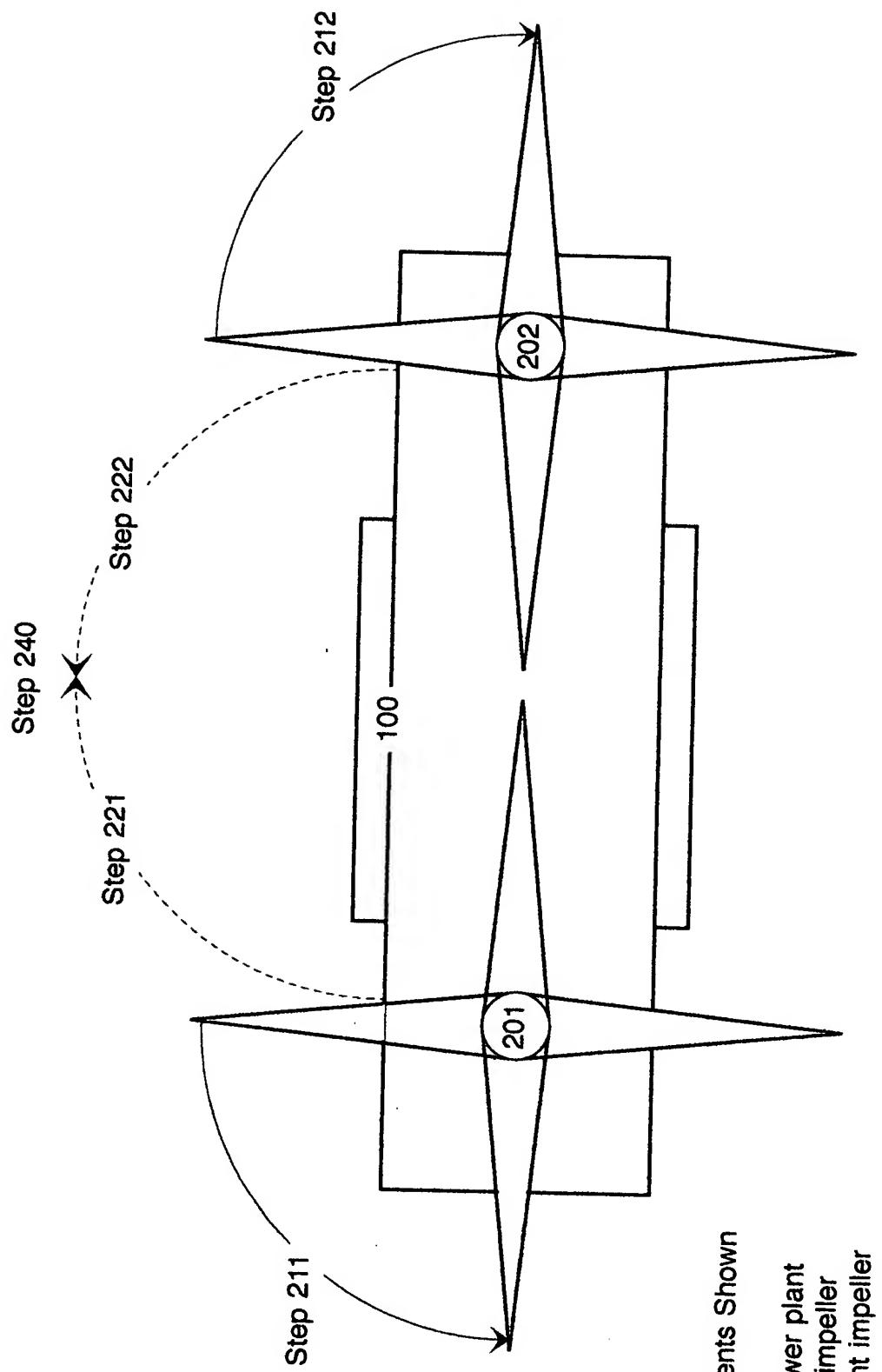
Figure 2



Components Shown

- 100 - power plant
- 201- left impeller
- 201c - left impeller spokes
- 202 - right impeller
- 202c - right impeller spokes

Figure 3



Components Shown

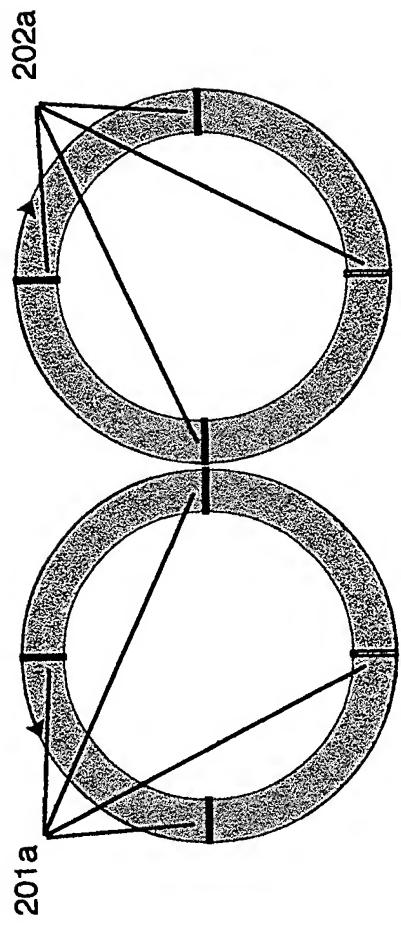
- 100 - power plant
- 201- left impeller
- 202 - right impeller

Steps Shown

- 211 - application of counter clockwise reactive torque to the left impeller 201
- 212 - application of clockwise reactive torque to the right impeller 202
- 231 - impeller 201 imparts counter-clockwise reactive torque to power plant 100
- 232 - impeller 201 imparts clockwise reactive torque to power plant 100
- 240 - reactive torques 231 and 232 cancel at power plant 100

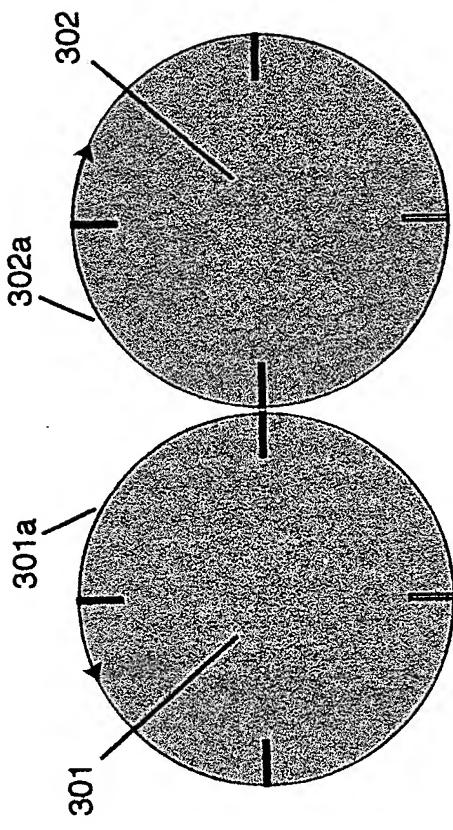
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Figure 4



Initiating forced vortices by
imparting angular momentum
to cylindrical band of air
between impeller blades

Figure 5



Components Shown

- 201a - Left rotor blades 201a
- 202a - Right rotor blades 202a
- 301 - Left Forced Vortex
- 302 - Right Forced Vortex
- 301a - Left forced vortex surface
- 302a - Right forced vortex surface

Steps Shown

211 - imparting counter clockwise angular momentum to left forced vortex 301

212 - imparting clockwise angular momentum to right forced vortex 302

Figure 6

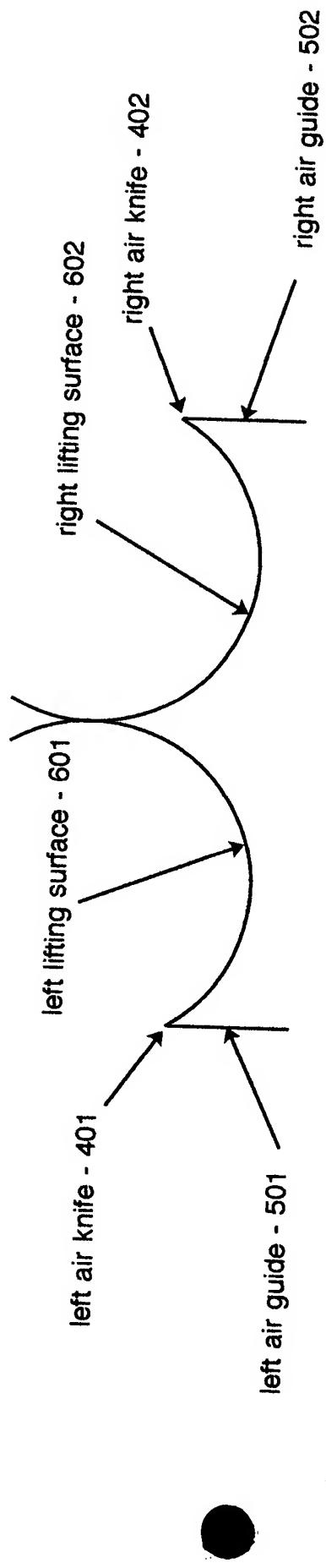


Figure 7

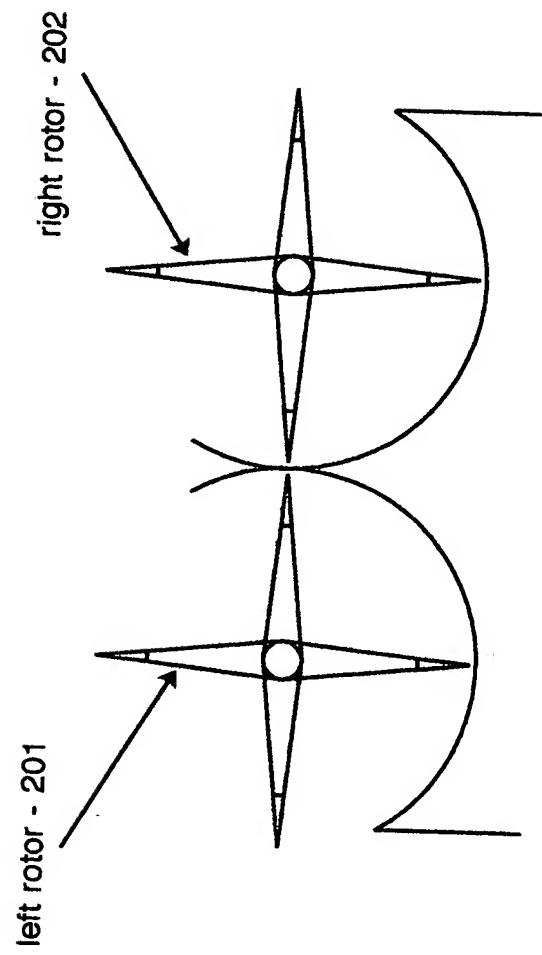


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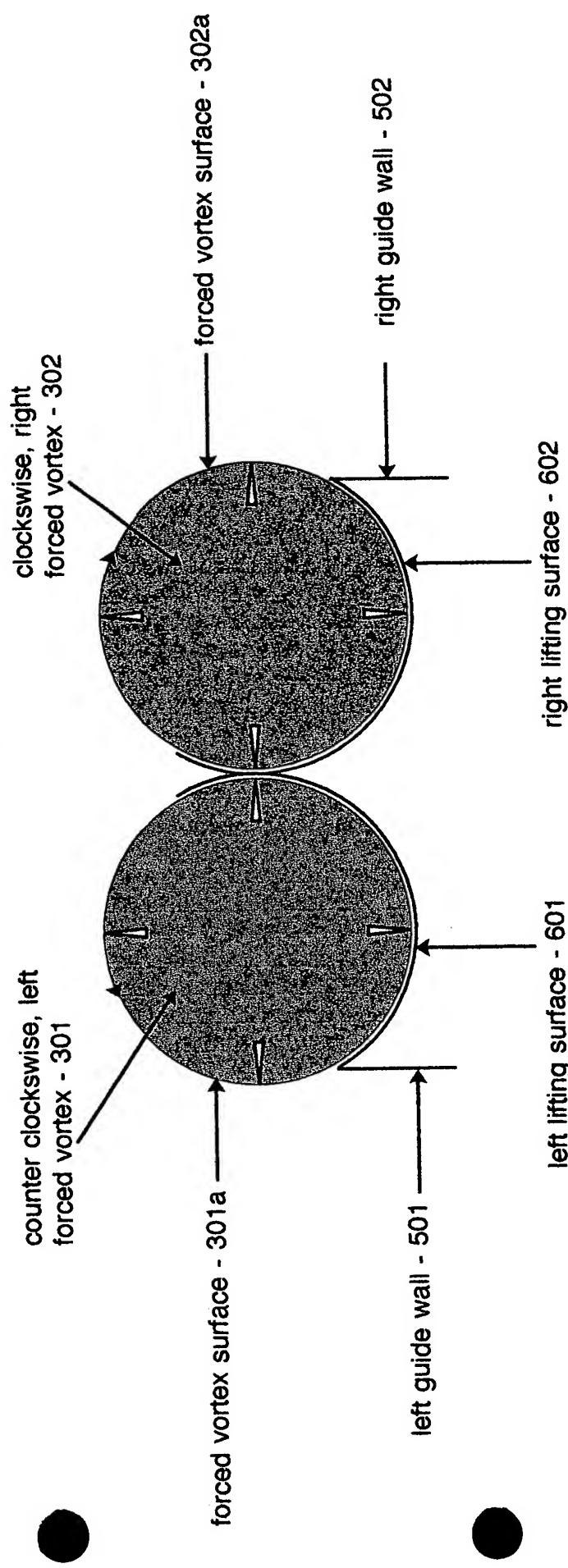
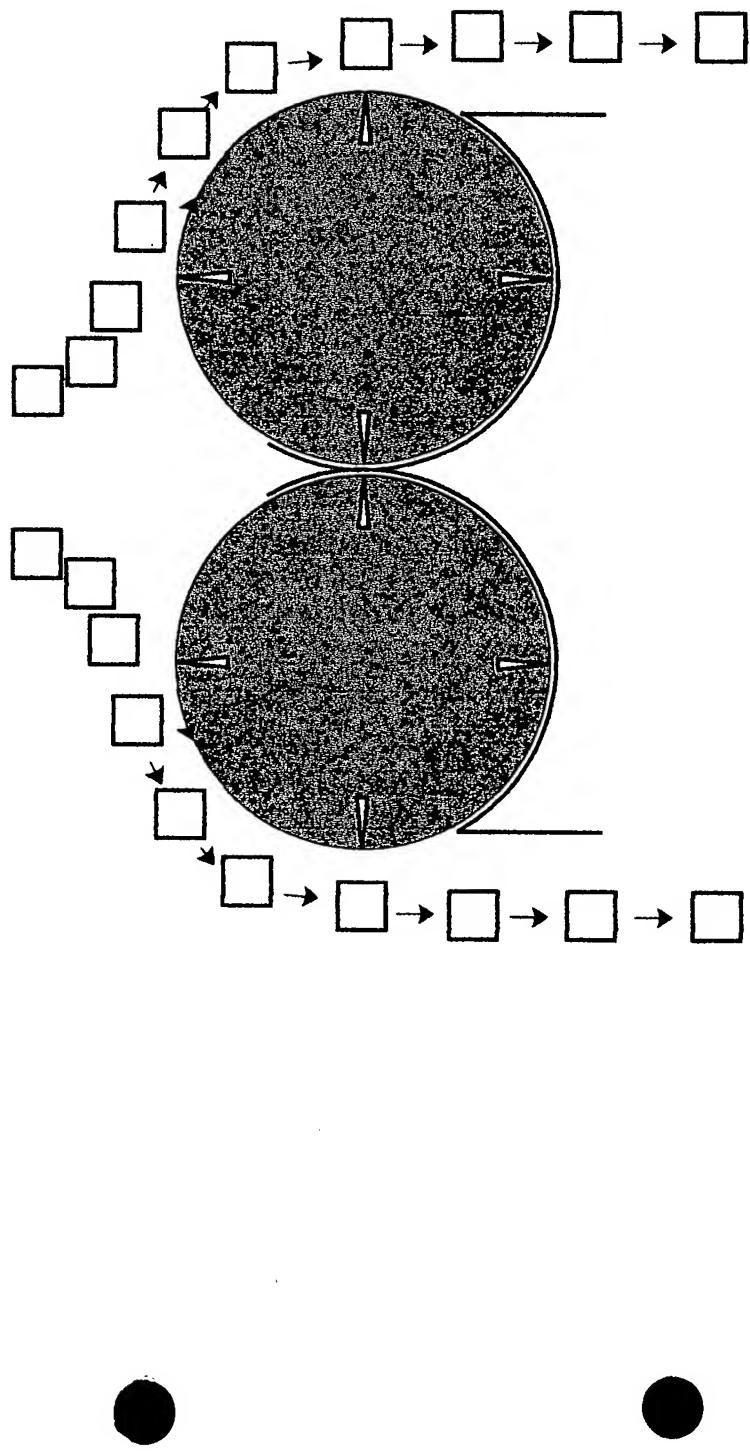


Figure 9

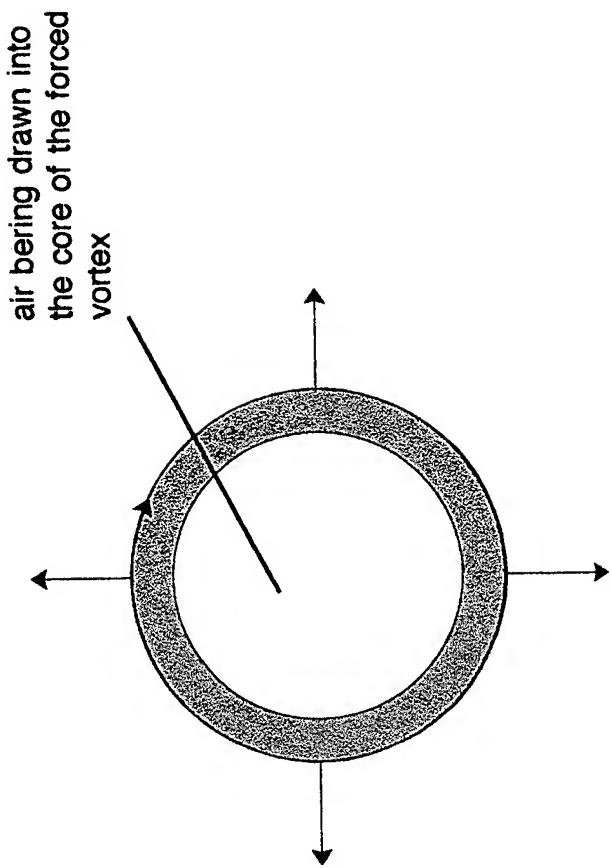


Steps shown are

311 and 312 - accelerating surrounding air downward by forced vortices 301 and 302
411 and 412 - severing moving air from the surfaces of forced vortices by air knives 401 and 402
511 and 512 - guiding moving air away from the undersides of vortex load couplers 601 and 602 by air guides 501 and 502.

□ 9 0 2 4 1 7 1 9 0 □

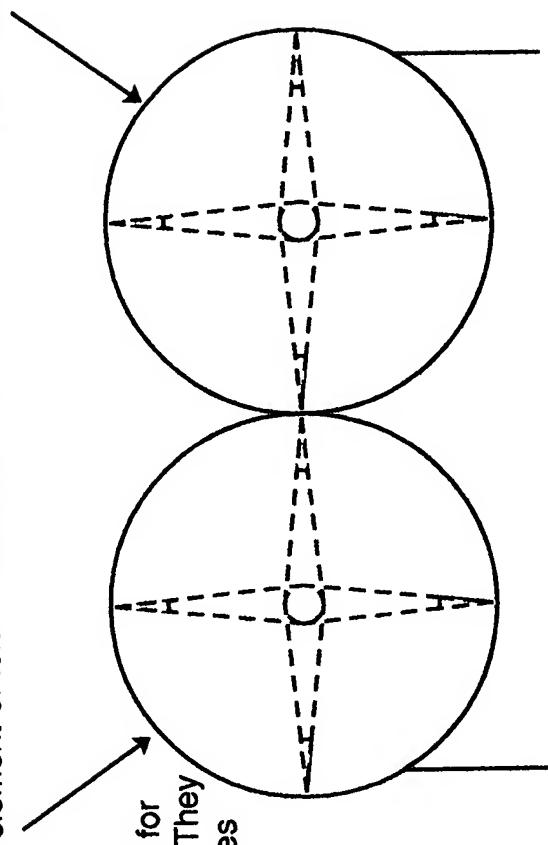
Figure 10



The straight arrows represent centrifugal force pulling outward on the air in a forced vortex. The arcing arrow represents the motion of a forced vortex. Unless the vortex ends terminate on surfaces they draw air in through the ends and dissipate. The diagram shows a vortex (grey area) that is widening and drawing new air into its center (white area).

Figure 11

front element of left vortex seals - 701



The vortex seals 701 and 702 are surfaces for the vortices 301 and 302 to terminate on. They prevent the entry of outside air into the cores of 301 and 302. The hidden impellers 201 and 202 that generate the vortices are represented with dashed lines.

Figure 12

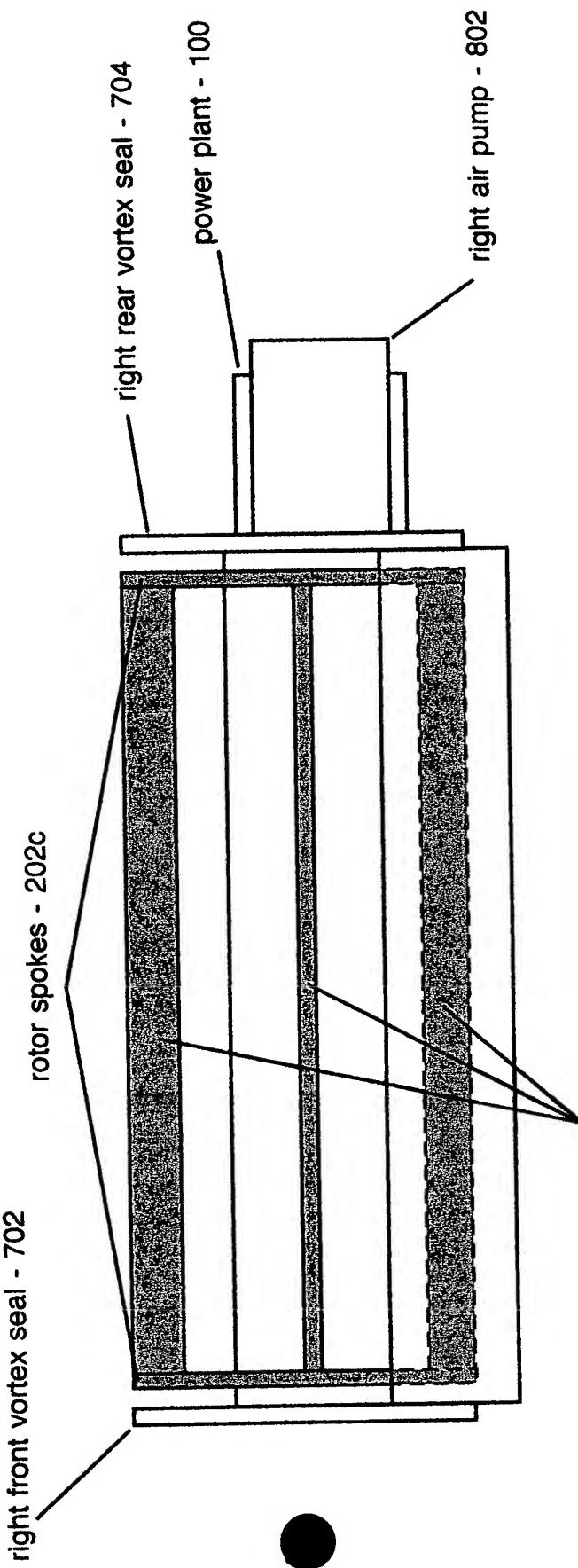


Figure 13

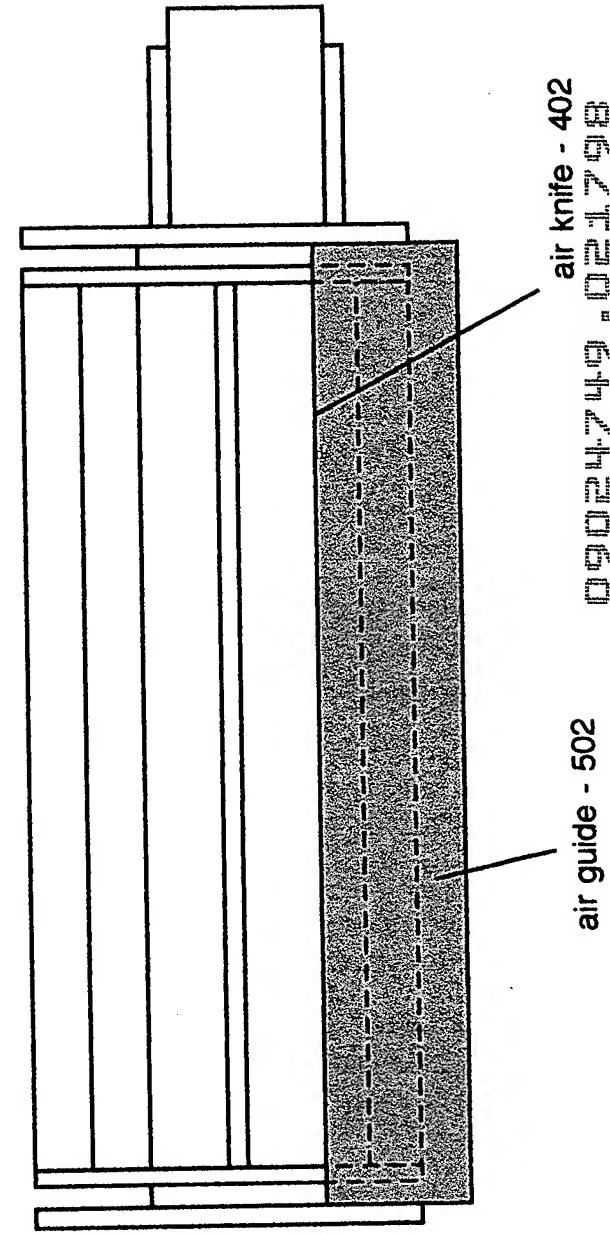
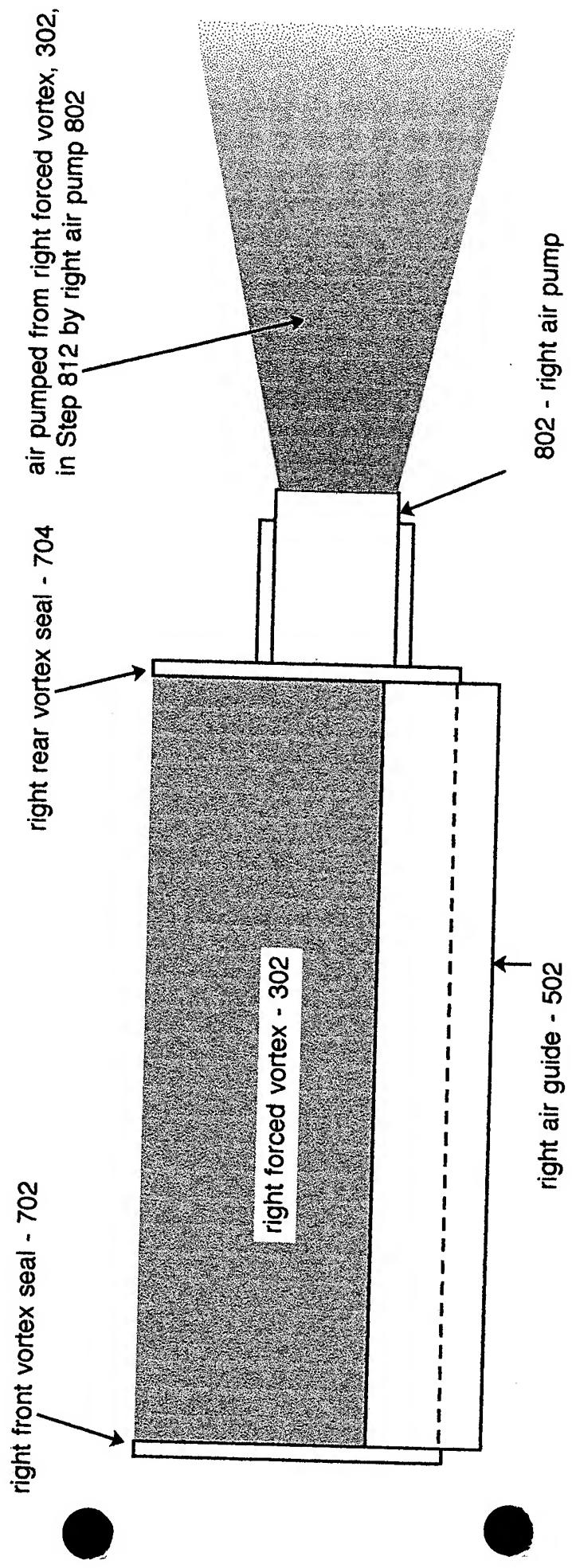


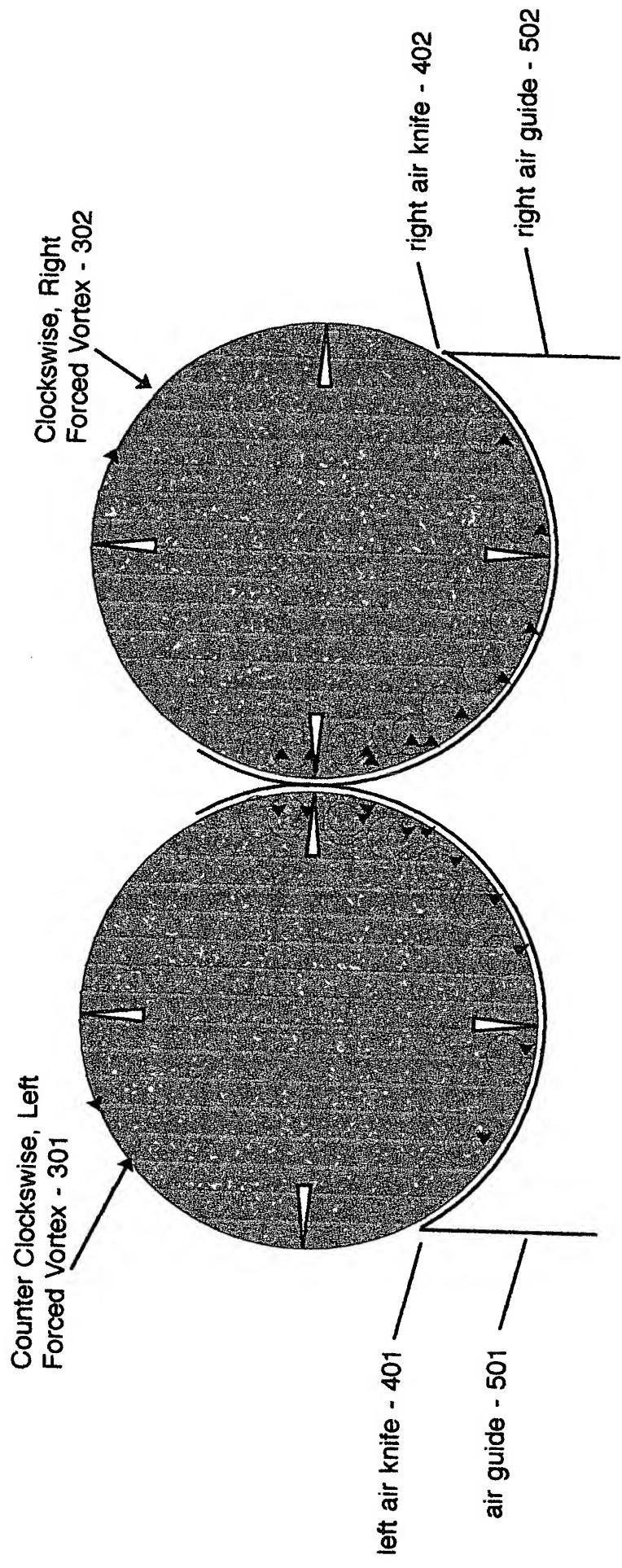
Figure 14



Steps Shown

712 - pumping air out the core of right forced vortex 302 by right air pump 802
812 - sealing the ends of forced vortex 302 with right front and rear seals, 702 and 704

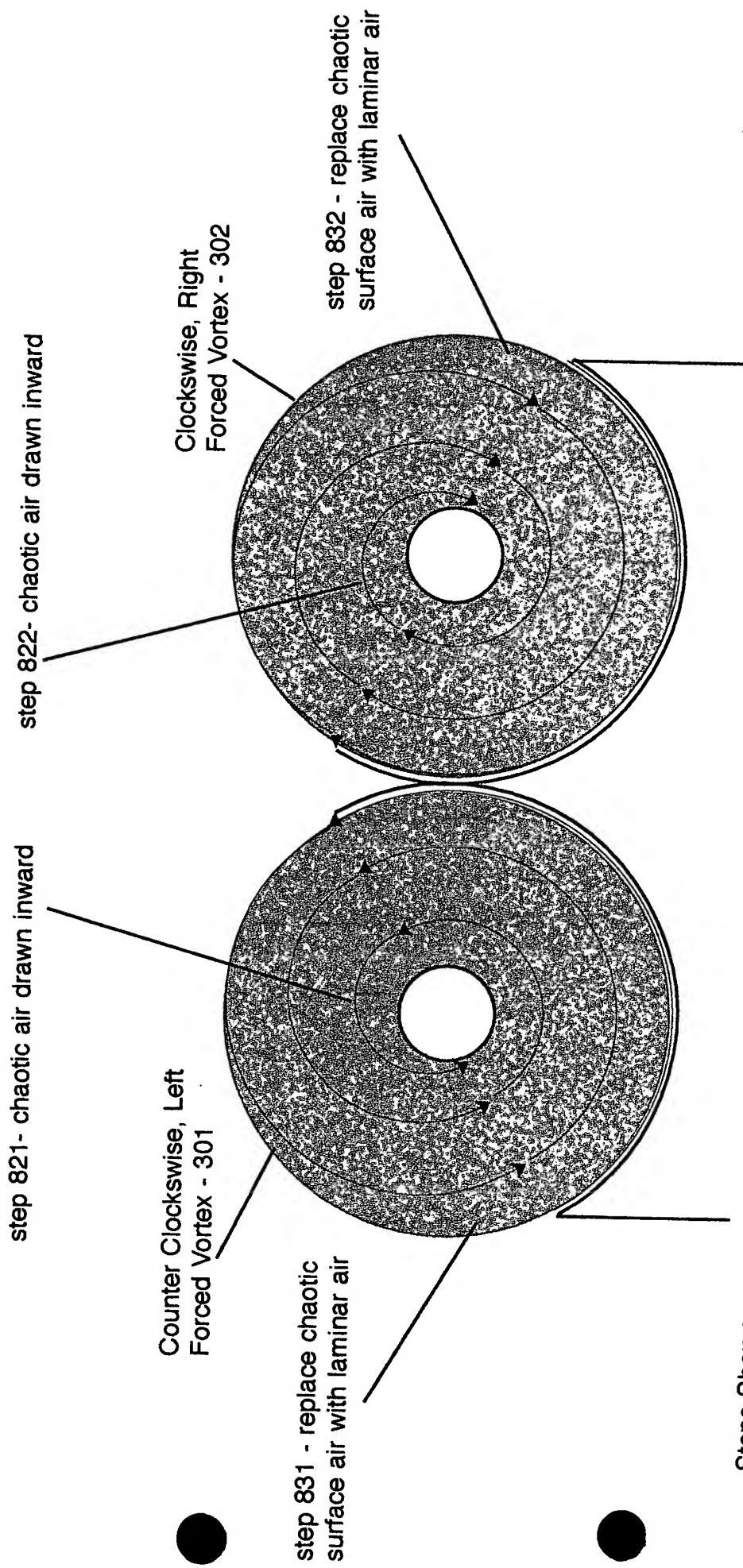
Figure 15



Steps Shown

- 611, 612 - rotate fresh surfaces of forced vortices 301 and 302 into contact with the lifting surfaces, 601 and 602
- 631, 632 - make surfaces of forced vortices, 301 and 302 chaotic or turbulent by bringing them into contact with roughened surfaces, 601 and 602

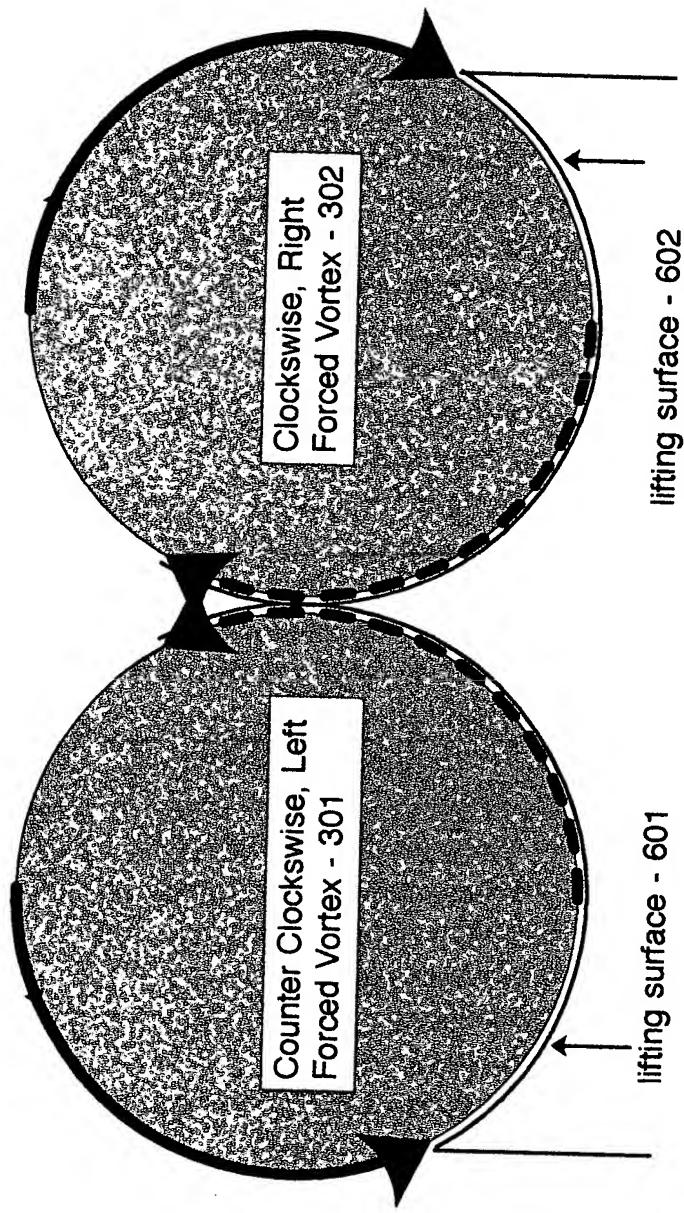
Figure 16



Steps Shown

821 and 822 - draw chaotic or turbulent air created in steps 631 and 632 inward toward the inlet of the air evacuators 701 and 702. Those inlets are represented by the white circles in the center of the gray representations of the forced vortices 301 and 302
831 and 832 - replace chaotic air withdrawn from the surfaces of forced vortices with laminar air from just beyond the volume swept out by the impellers

Figure 17



Steps Shown

641, 642 - protect upward driving surfaces of forced vortices 301 and 302 to prevent substantial upward acceleration of air surrounding the forced vortices and to enhance the net downward acceleration of that air

- the heavy dotted arrow represents steps 641 and 642



- the heavy solid arrow represents enhanced surface area available to do steps 311 and 312 by tilting the lifting surfaces 601 and 602

0 9 0 2 4 1 7 4 1 9 0 2 1 1 7 9 0

Figure 18

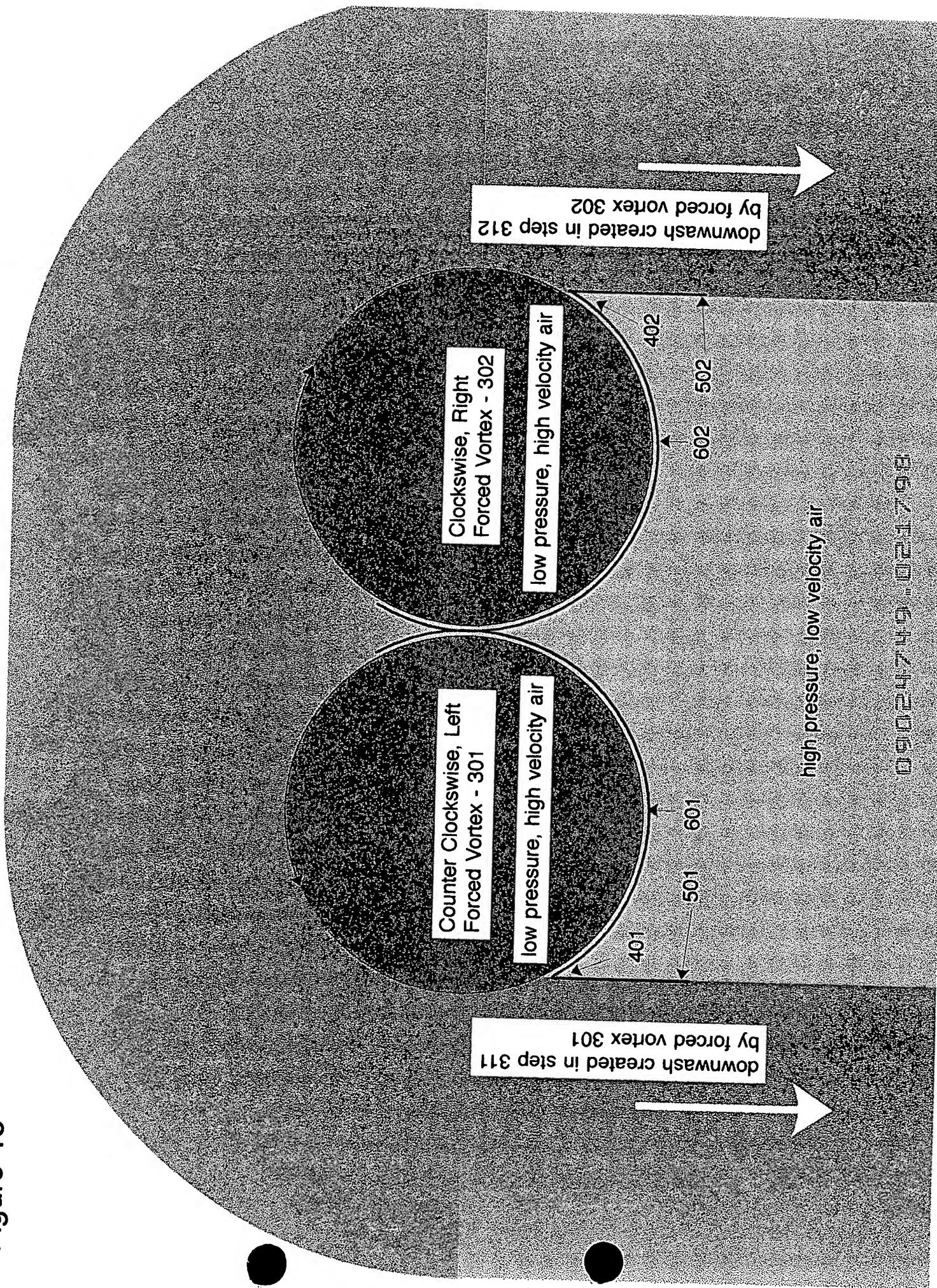
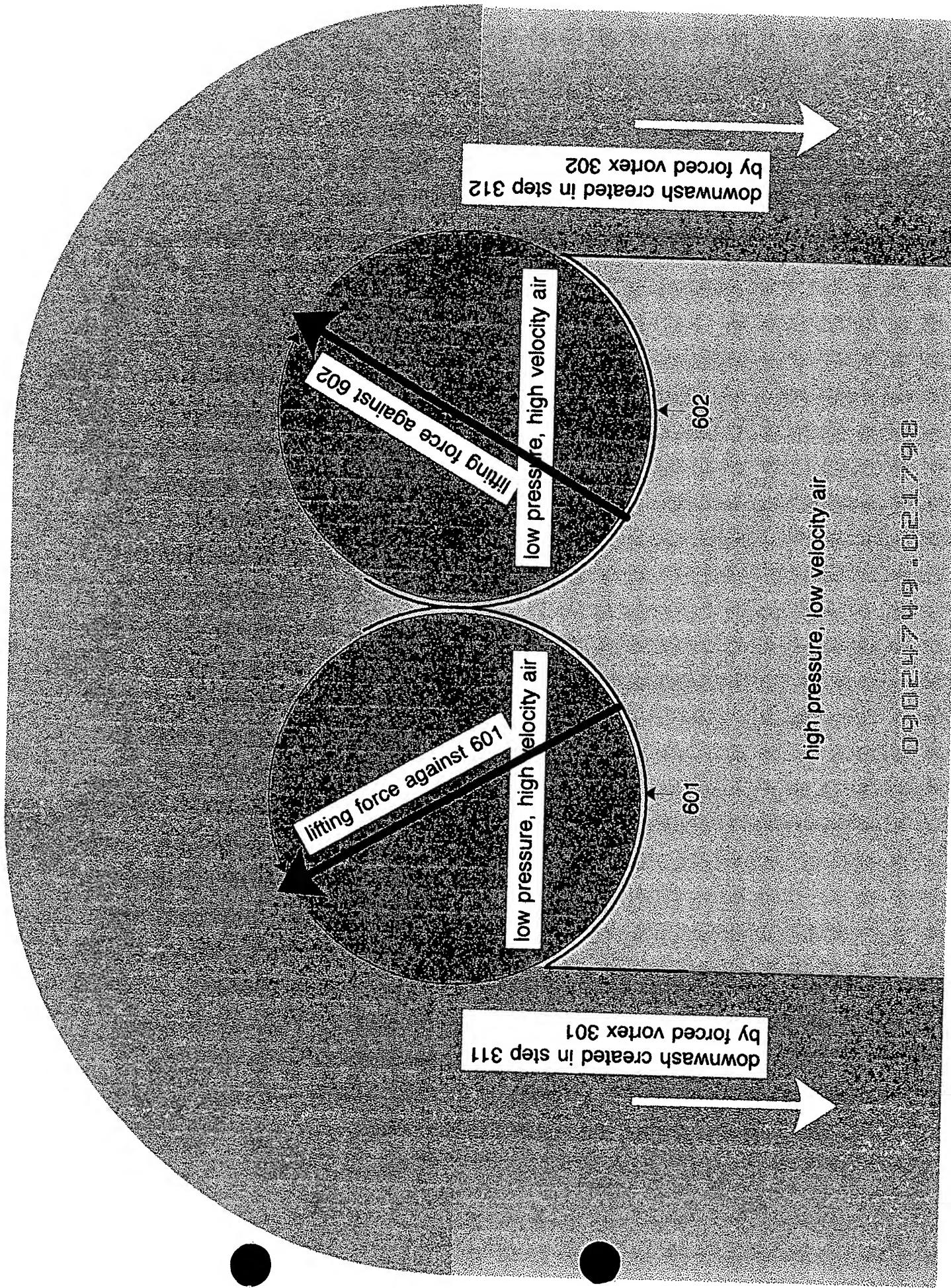


Figure 19



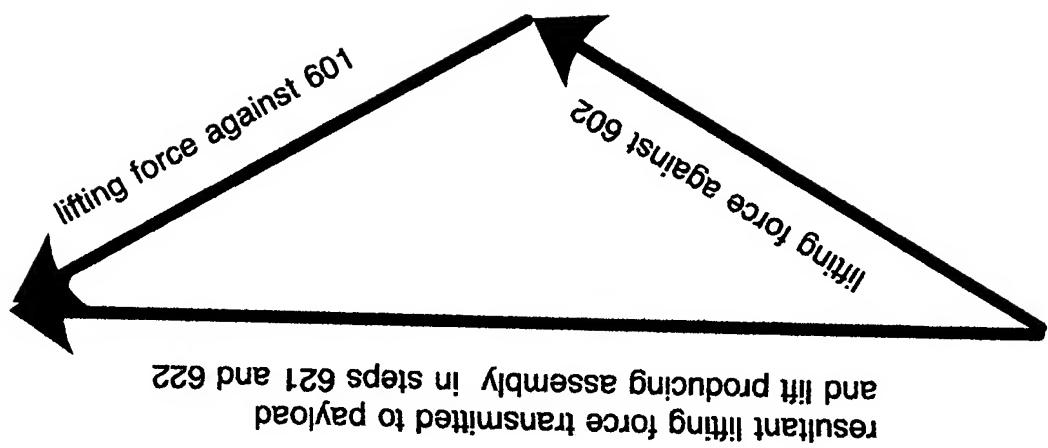
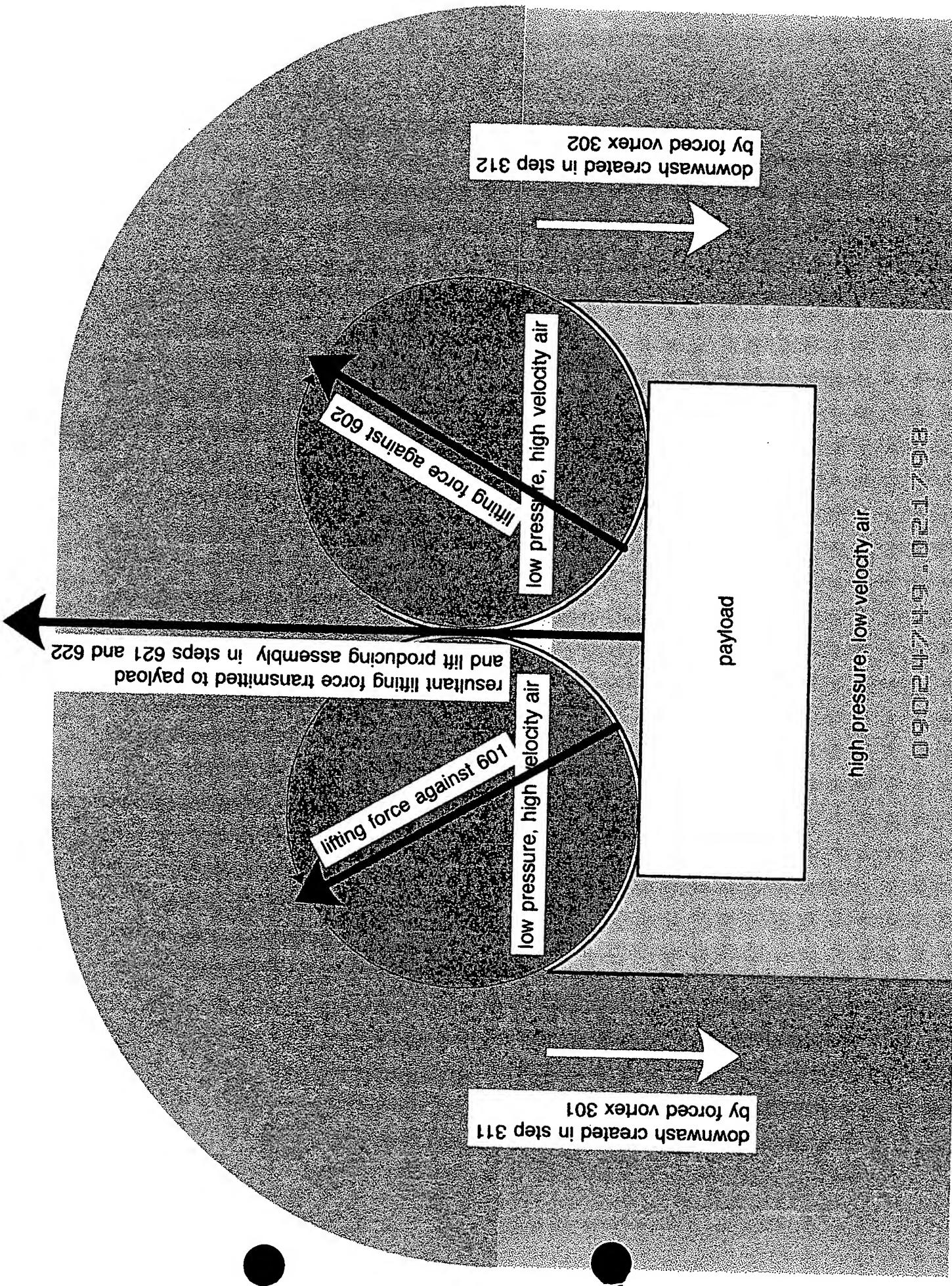


Figure 20

Figure 21



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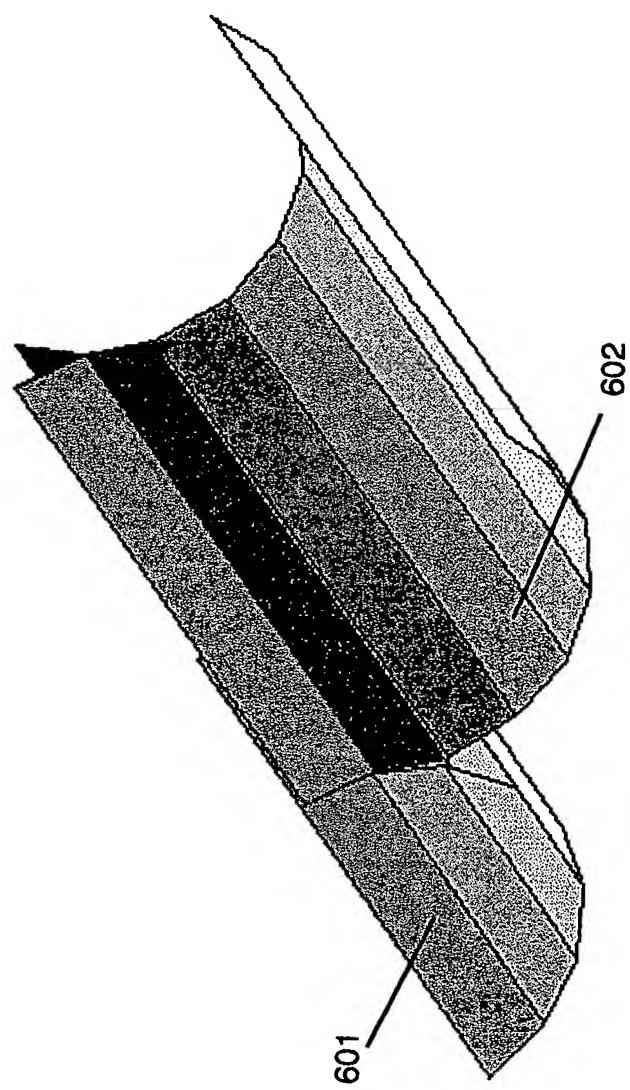


Figure 22

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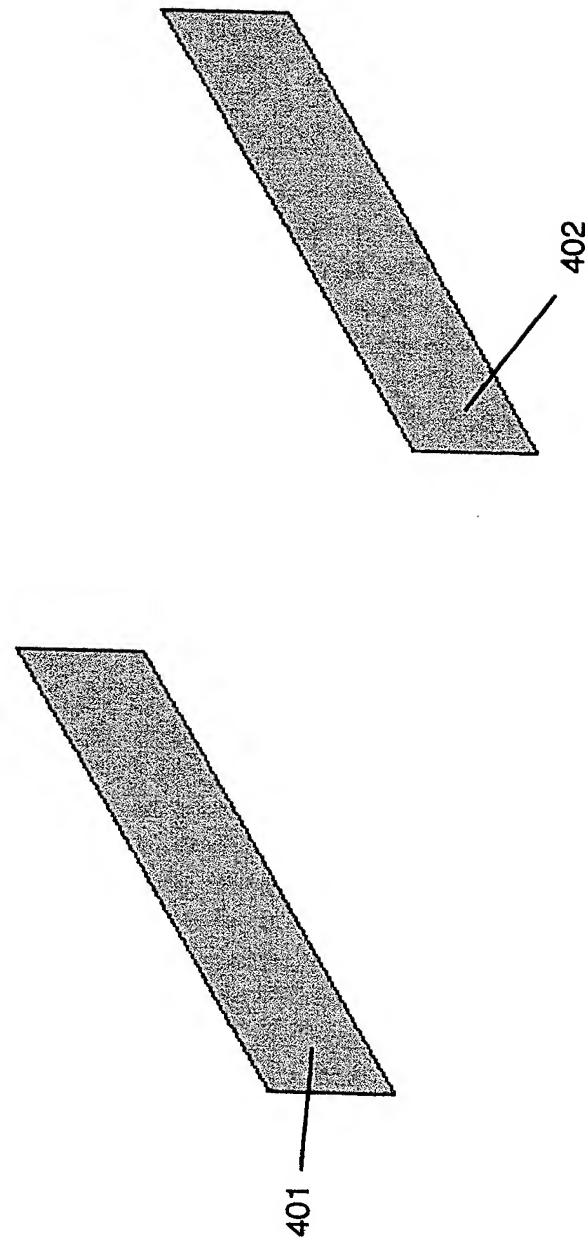


Figure 23

Figure 24

Note: The air knives 401 and 402 are the intersections of the intersections of the lifting surfaces, 601 and 602, and the air guides, 501 and 502.

Distal edges of lifting surfaces are 601a and 602a
Proximal edges of lifting surfaces are 601b and 602b.

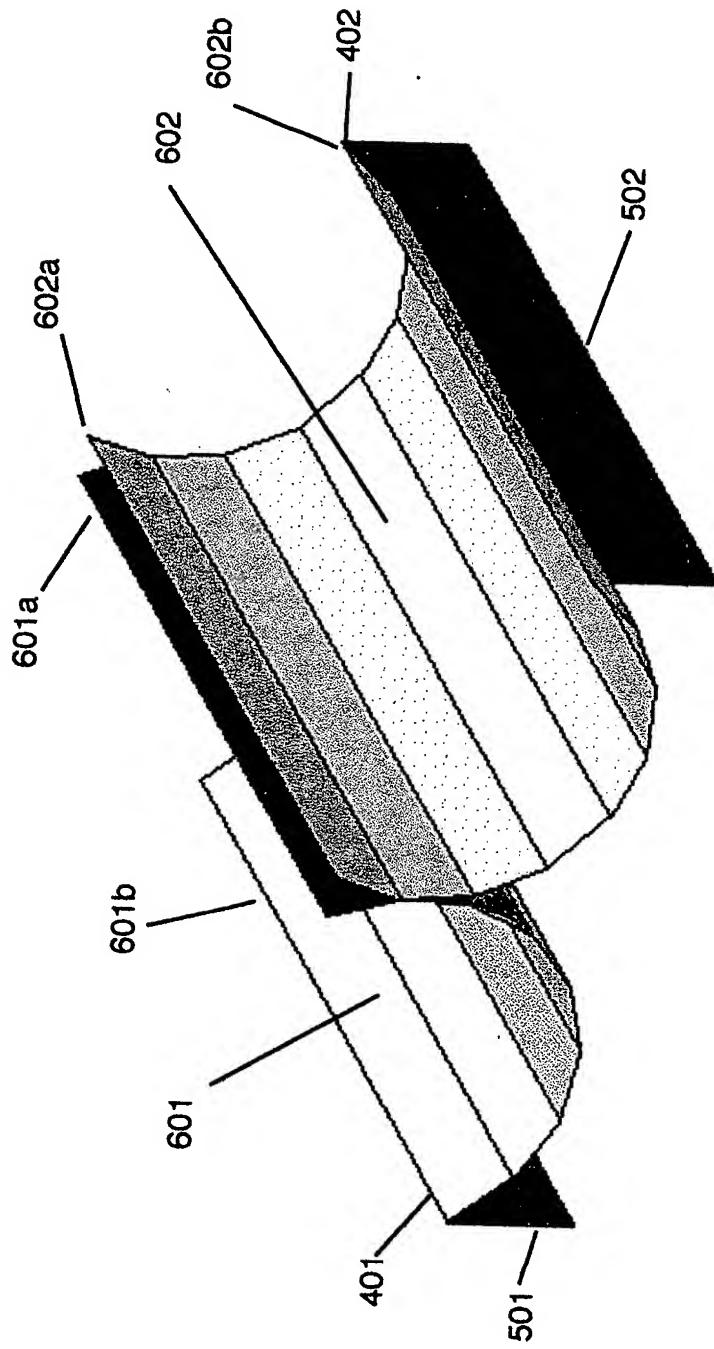
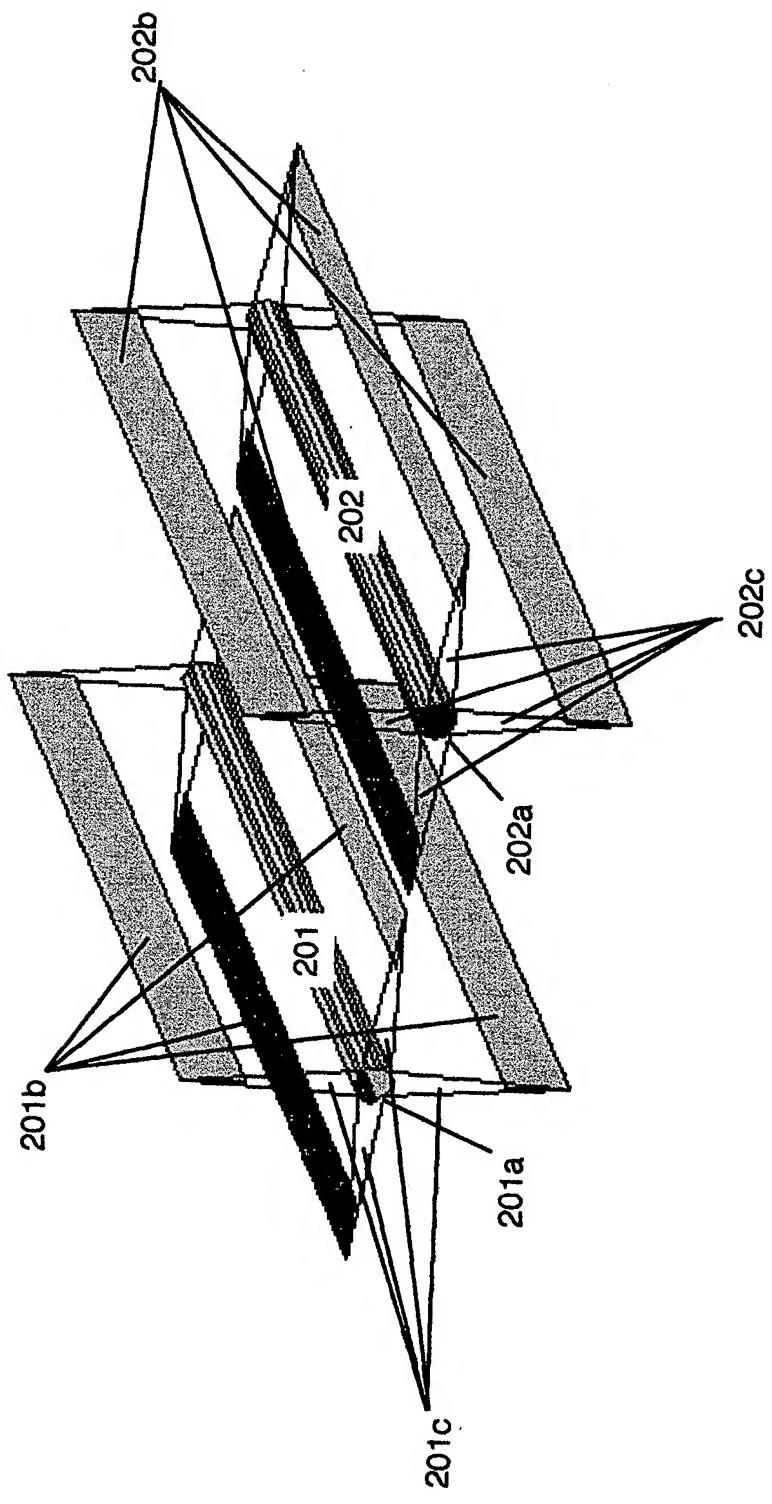


Figure 25



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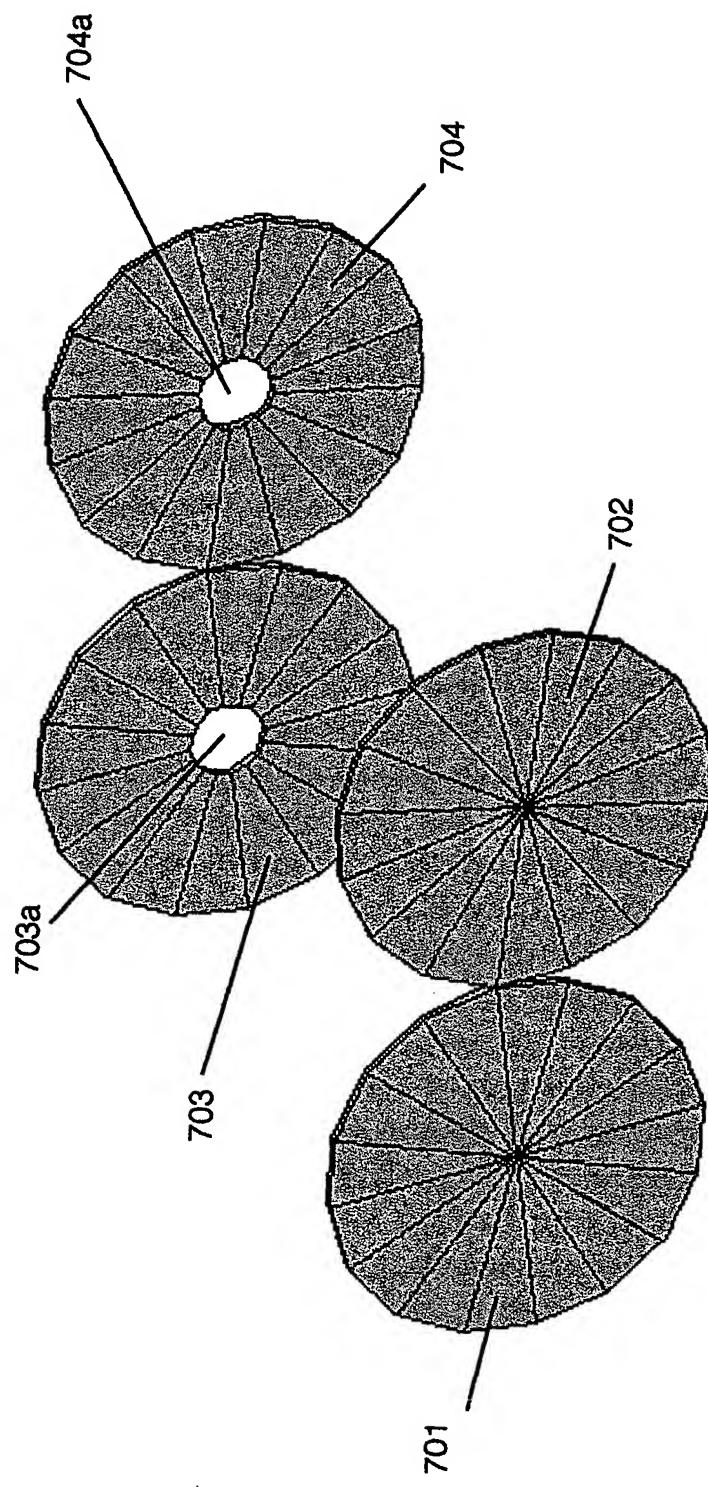


Figure 26

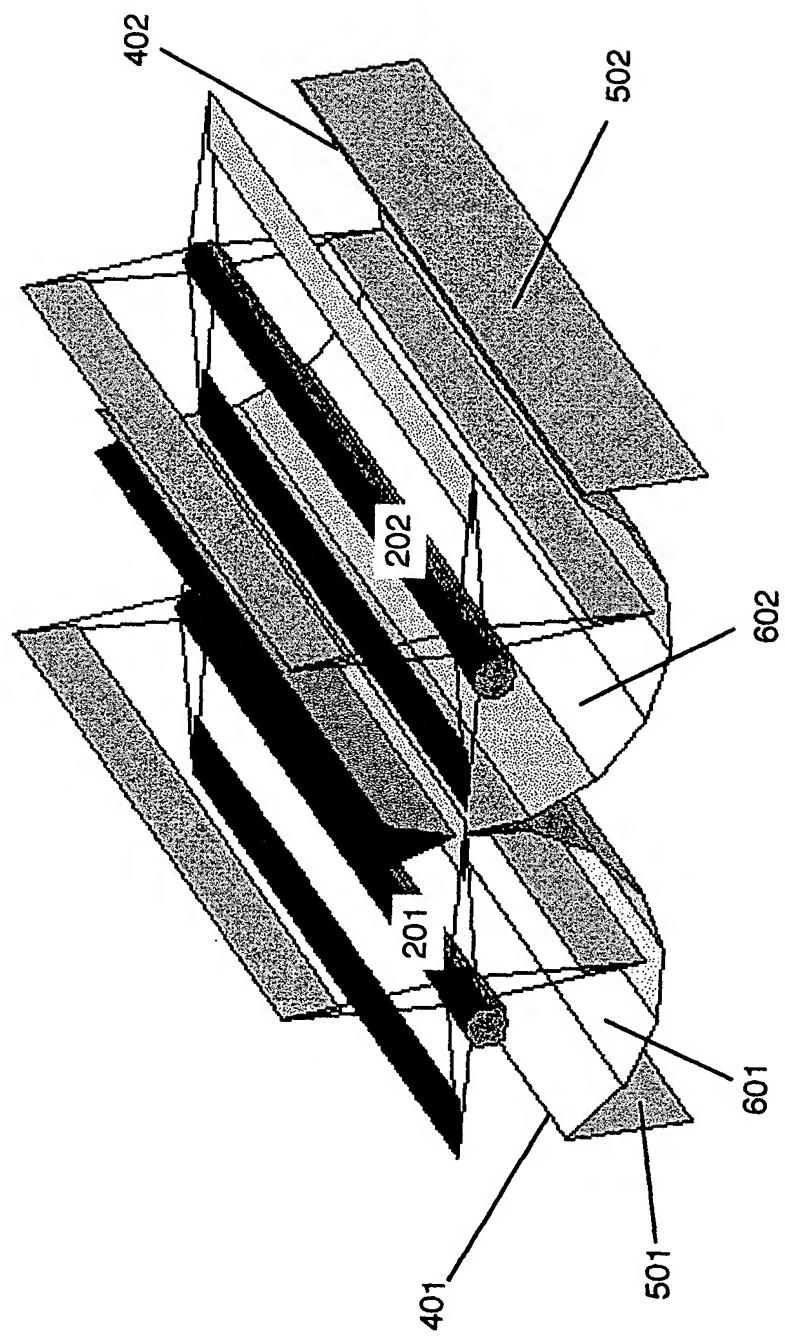


Figure 27

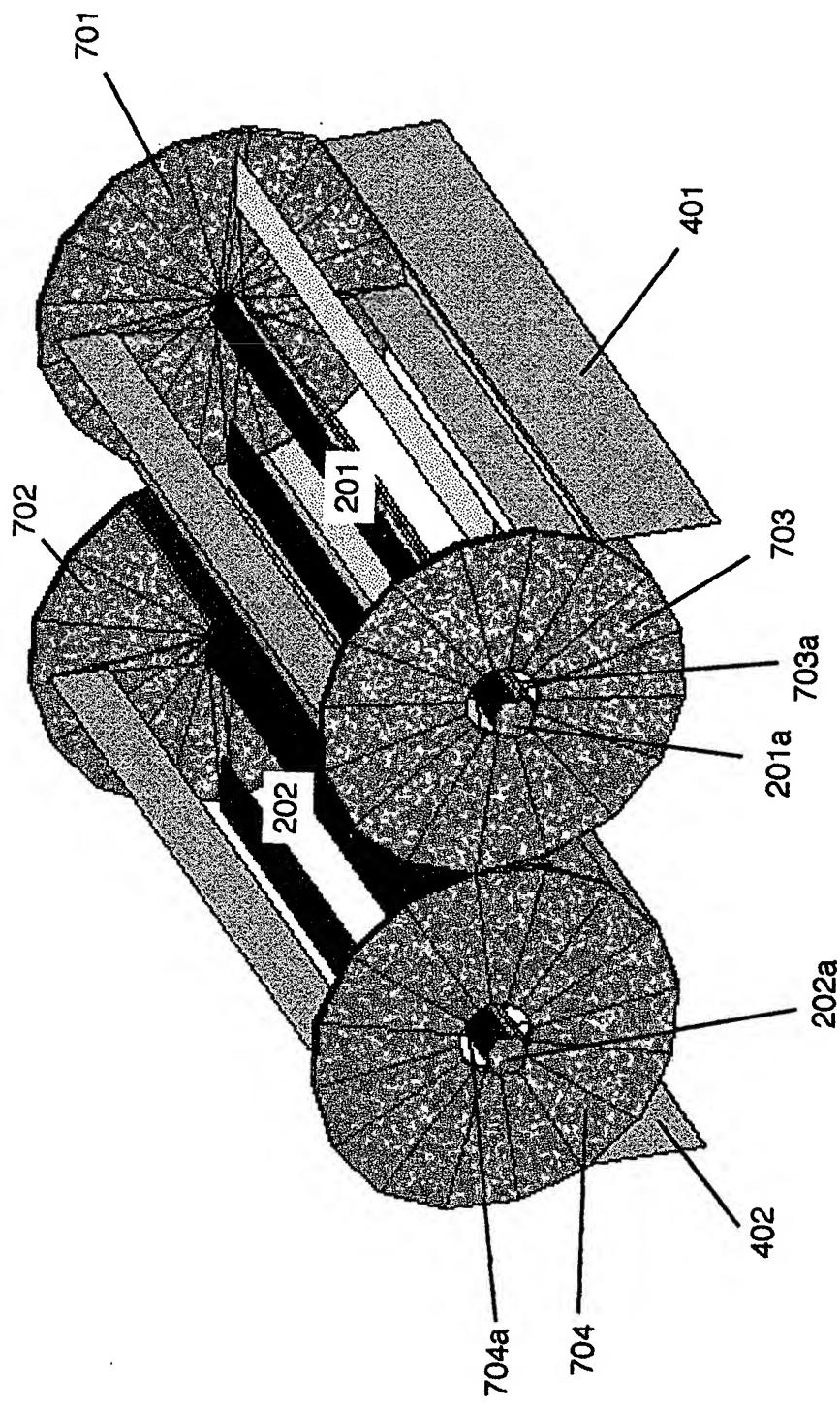


Figure 28

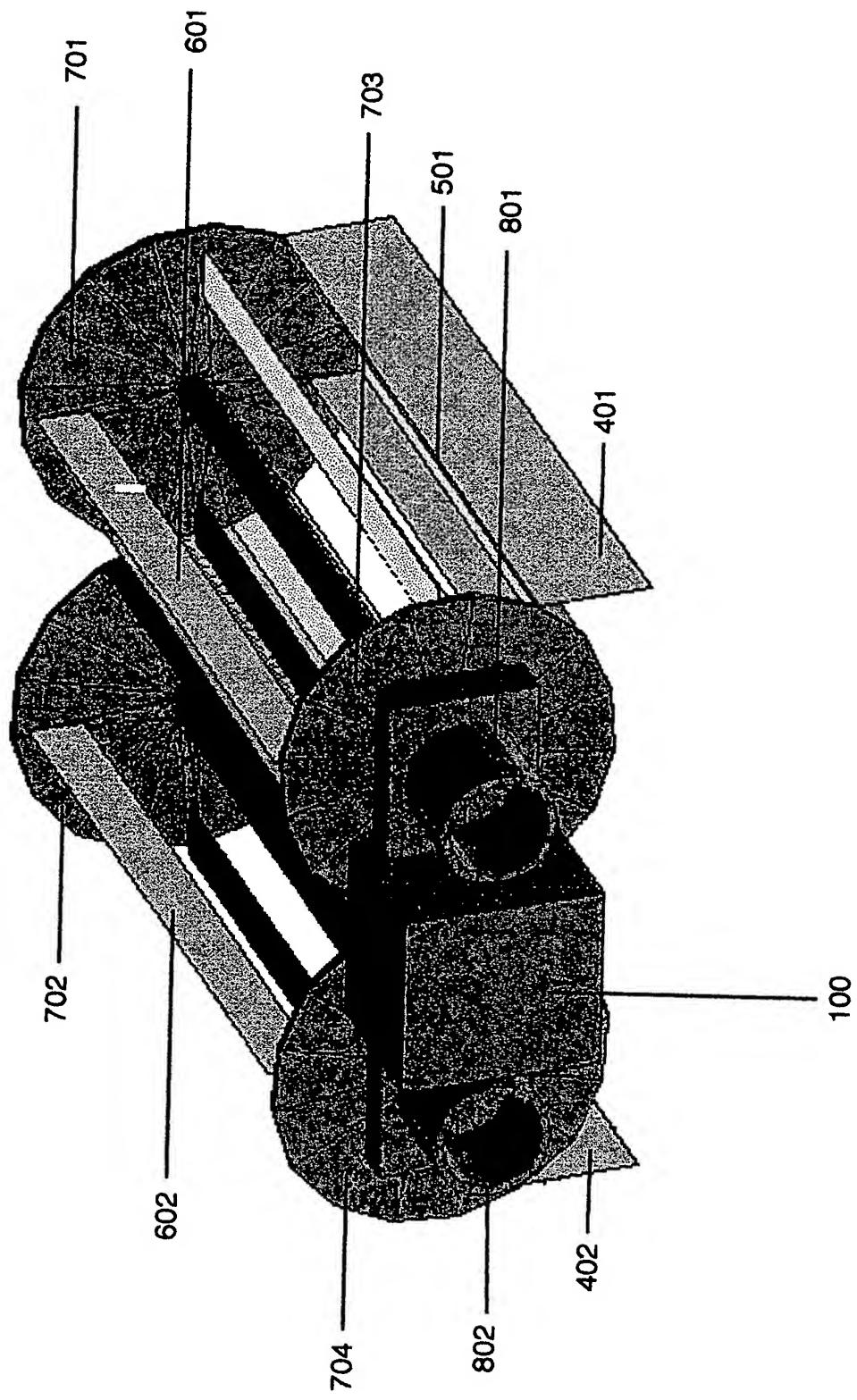


Figure 29

Figure 30

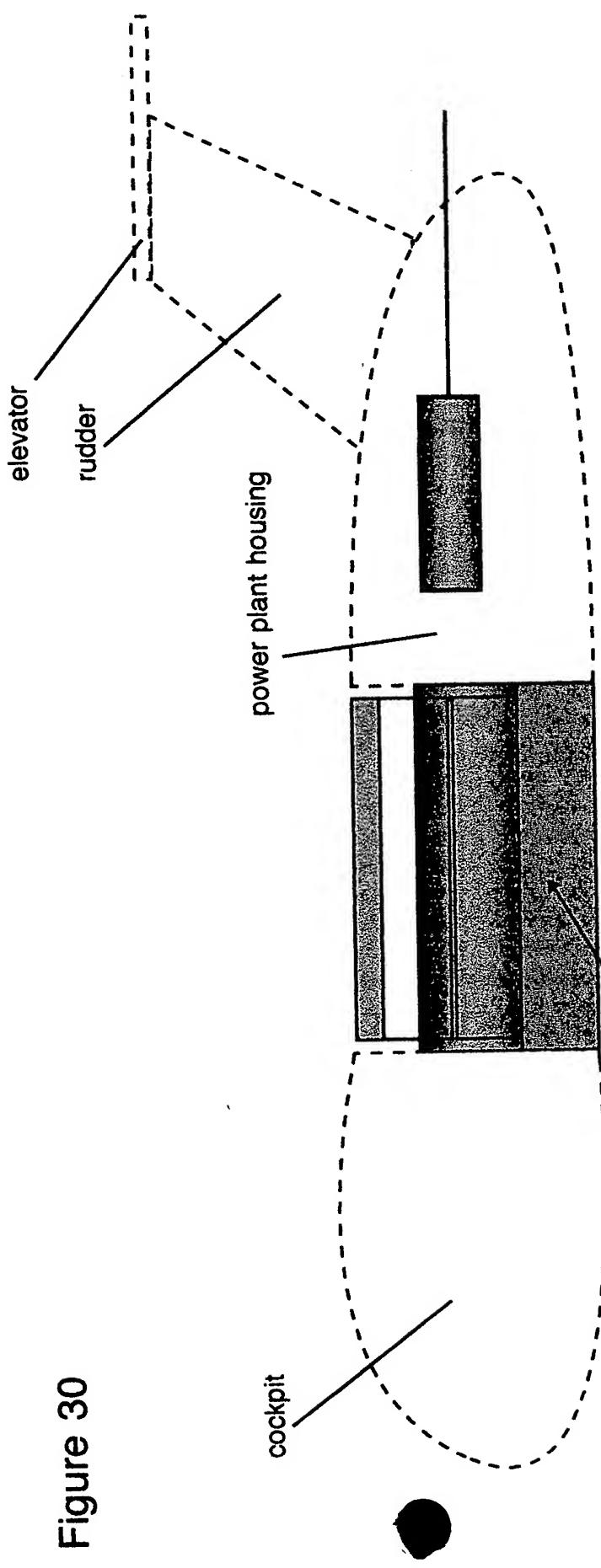
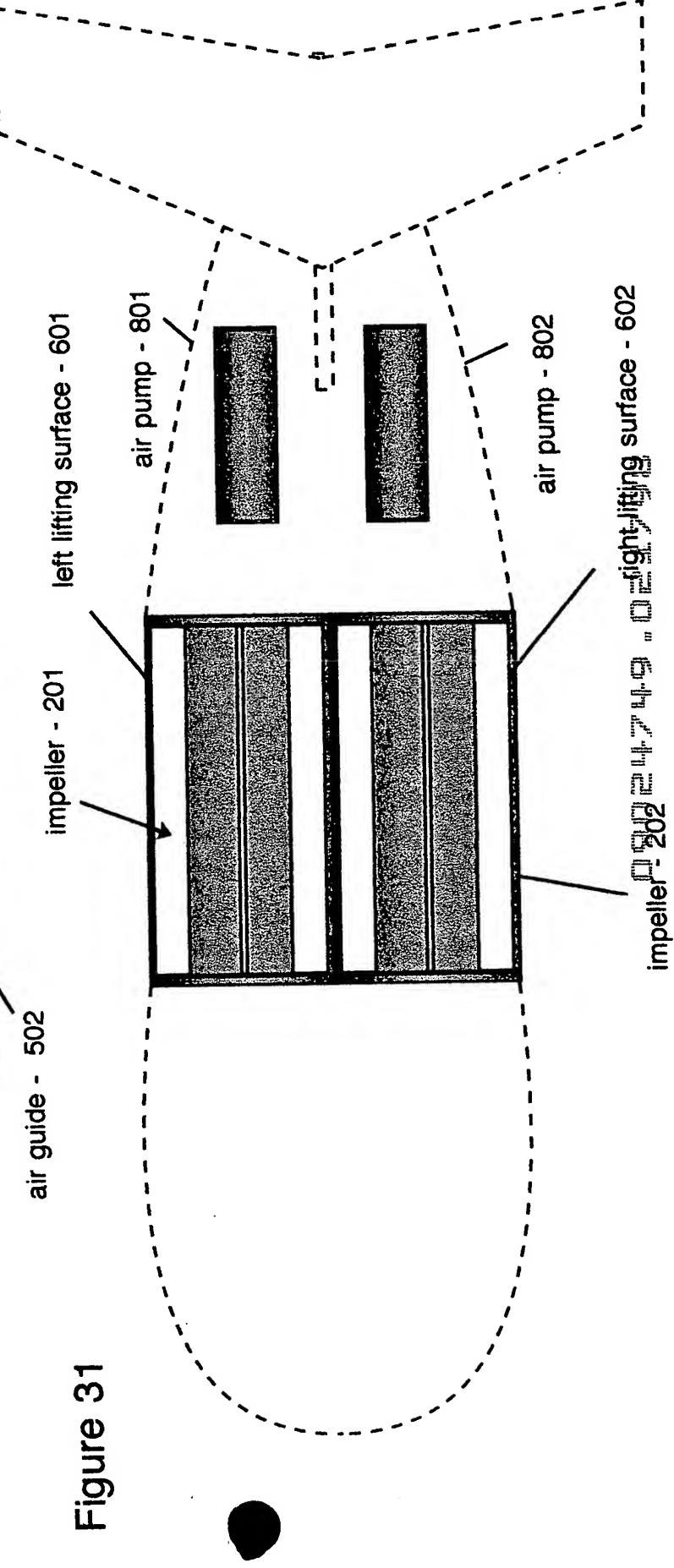


Figure 31



air pump - 801 left lifting surface - 601
air pump - 802 right lifting surface - 602

Figure 32

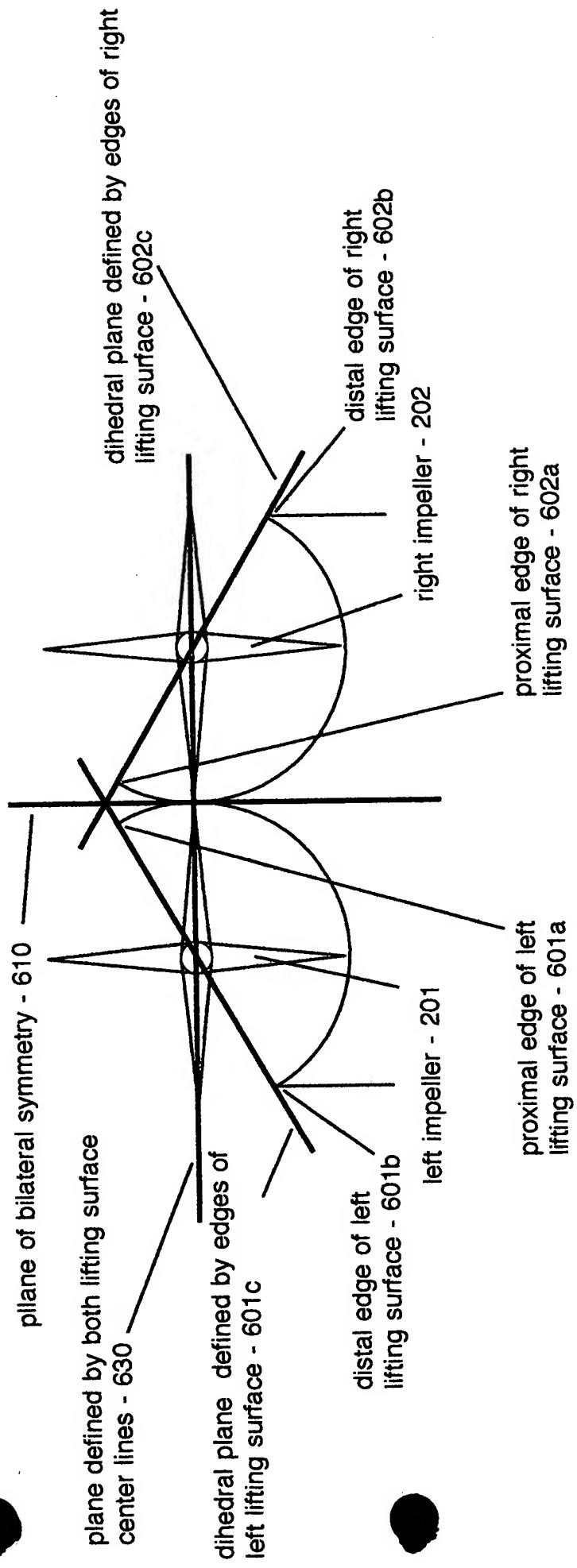


Figure 33

